



High-Risk Guidebook for Children

An Introduction to High-Risk Codes for Children

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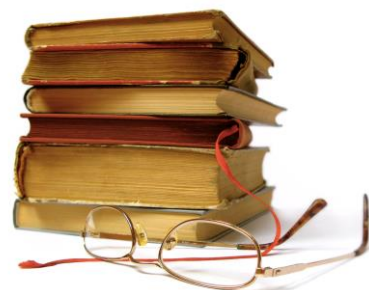
Before You Begin...

Using the High-Risk Guidebook for Children

Welcome to the High-Risk Guidebook for Children. Before you begin, we'd like to review a few important points.

1. This guidebook was created to help you learn more about each high-risk code for children and teach you some counseling techniques and tips to help with your high-risk assessment appointments. As with most medical recommendations, some views and thoughts may change over time so always check with your Local Agency to address any questions you may have.
2. To get the best learning experience from this guidebook, plan to read through the High-Risk Guidebook for Children on your own and then review with your trainer. Plan to take notes and answer questions in the High-Risk Guidebook for Children as you go through it. You can read through these risk codes at your own pace and skip around to best fit your learning needs. Talk with your trainer to see if your Local Agency has additional policies for WIC Registered Dietitian Nutritionist (RDN) and Medium-Risk Nutritionist (MRN) training that you need to follow.
3. Utilize resources provided by the Arizona Department of Health Services (ADHS) as well as your Local Agency. A brief list of resources you have access to are:
 - Nutrition Risk Manual (NRM)
 - Nutrition Services Standards (NSS)
 - Nutrition Care Guidelines (NCG)
 - Arizona WIC Policy and Procedure Manual
 - American Academy of Pediatrics (AAP)

<https://www.healthychildren.org/>







As you go through the training, it's a good idea to identify what other resources your agency has available for you to learn more about these high-risk codes and what you can share with

your WIC families. Knowing about these resources in advance will set you up for successful nutrition assessment and counseling with our WIC families.

4. The accompanying Workbook has both Critical Thinking Questions and Case Studies for several of the high-risk codes for children. You will see a blue question mark icon when there is a Critical Thinking Question and a magnifying glass when there is a Case Study for the high-risk code in the Workbook. Practice your assessment and counseling skills by reading these critical thinking questions and Case Studies, answering the questions and discussing your thoughts with your trainer. (Note: Discuss with your trainer whether you should read and think through Case Studies first before meeting with them, or whether your trainer prefers to go through Case Studies with you as you work through them.)
5. Remember that your Local Agency may have developed specific requirements that are best for your setting beyond what is described in this document. This guidebook offers information that applies to RDNs and MRNs throughout Arizona. It is a good idea to write down questions you have about high-risk appointments in your agency and clinic to ask your trainer.

Guidebook Icons

Throughout the High-Risk Guidebook for Children, we will use icons to help point out important information and resources.

	Medium-Risk Nutritionist	This icon denotes high-risk codes that a Medium-Risk Nutritionist can assess and counsel.
	Critical Thinking Question	Stop at these icons to test your knowledge and practice your counseling and assessment skills..
	Case Study	This icon will let you know when there is a Case Study you can review in the Workbook for additional practice with your trainer.
	Resource	This icon means that there is additional information in a resource with which you are familiar. A list of these resources can be found above in #3 of the Before You Begin section.

What will the RDN or MRN learn?

1. Identify high-risk codes for children.
2. Assign high-risk codes for children according to Nutrition Risk Manual definitions.
3. Assess the relationship of subjective and objective information in high-risk case studies to determine appropriate nutrition education options to offer WIC participants.
4. Explore ways to facilitate behavior change consistent with Nutrition Services Standards, the Arizona WIC Policy and Procedure Manual and the Participant Centered Services approach.

Instruction Level

This guidebook is to be completed by newly hired WIC RDNs and MRNs. For this course, you will need to have completed all other LMS and guidebook training as defined by your Local Agency Training Plan.

Recommended Time

This training will take approximately three hours to completed. Additional time may be required to complete the accompanying Workbook.

Things to Remember

When you have questions about a specific code, talk with your trainer. Although there is a wealth of information provided in this training, you can learn a lot from your trainer and RDN or MRN peers as well. Talk with your trainer about how they have handled situations or high-risk codes with which you are not comfortable or familiar.

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Module 1: Introduction

Although infants experience the most dramatic growth and change during the first year, the toddler through preschool years are also critical for brain growth and development. This is such an exciting and challenging time for parents. Nutrition plays an important role in development, as the vitamins, nutrients and energy from the healthy foods they eat help with their growth and development. If you have children of your own, you will know that kids can be very picky and opinionated when it comes to food, and if you don't have children, you will learn a lot about this from your WIC clients! WIC can be a great resource for our WIC families that may be having a hard time getting their children to eat healthy foods, and can be an even more valuable resource when their children are at high risk. This module will assist WIC RDNs and MRNs with high-risk assessments pertaining to child participants (C1, C2, C3 and C4).

Doctor Recommendations

Some of the high-risk children you see may come in with a prescription from their pediatrician for a toddler formula or Pediasure. Although the pediatrician may have very good medical reasons for prescribing it, WIC has very clear policies on when these special formulas can be issued (see Chapter 4 in the Policy and Procedure Manual for more clarification on Pediasure issuance). The calories and nutrients provided in Pediasure can be obtained through healthy foods, so WIC policies are intended to make sure that the recommendation considers the behaviors, available foods and developmental needs of children as well as the calories and nutrients that support their growth.



So what do you do when the child does not meet our WIC policy guidelines for a Pediasure prescription? First, you will need to explain to the family that WIC will not be able to provide them with the requested formula (Pediasure). Explaining why WIC isn't able to offer the Pediasure and how other foods in the diet could help the child may help to alleviate the stress some parents feel when

they find out they don't qualify for Pediasure. Also remind the family that WIC will work with them and the child's doctor to figure out the best nutritional options for this child. You can call the pediatrician or medical provider to discuss what other recommendations they have for this child. AHCCCS (Arizona's Medicaid program) can sometimes provide Pediasure when WIC cannot. You can discuss other nutritional options for the child, such as: using Carnation Instant Breakfast, nutrient-dense foods that can be added into the child's diet, healthy mealtime habits such as eating food first and then liquids or supplement drinks after, or further investigating other suggestions the doctor may have.

It's important to work with these families to determine the best nutritional plan for their child. Some parents may feel that without the Pediasure, their child's health is at risk. Helping them to better understand their child's nutrition and other options they have can be very helpful.

NOTE: If, after contacting the physician or other prescribing authority, you still have concerns about approving a prescription request or the specific treatment recommendations provided, consult your local agency team or your Nutrition Services Consultant for additional support and guidance.

Self-Diagnosis versus Self-Reported Diagnosis by a Physician

An important part of being a parent is studying your child and watching for any issues that may arise, such as: picky eating, developmental milestones, behavioral issues, speech problems and more. With all the information available on the internet, it is easy for parents to diagnose their child with a medical condition. It's important to make sure that the child has been diagnosed by a physician before we categorize them as high risk at WIC. If you meet with a parent who diagnoses or suspects that there might be a high risk, refer them to their pediatrician to be evaluated and monitored. Parents usually know when something is wrong (call it "parent intuition"), but sometimes their cautious worries are just that - worries. Either way, you can help the parent come up with a plan to help the child, but in order to be assigned a high risk, their child's situation or medical condition needs to have been diagnosed by a licensed health care provider.



Critical Thinking Question:

Please go to the accompanying Workbook to answer Doctor Recommendations question 1.

Important General Nutrition Assessment Topics for Children

The more time you spend at WIC, the more you will see the common trends and topics that are discussed at children's high-risk appointments. Although you may have learned about some of these topics in your WIC Nutrition training courses, we have broken down some of the most common and helpful topics and concerns that often come up at these appointments:

Beverages - Find out what the child is drinking and don't assume you know. You may be surprised to hear that a child likes to drink root beer or a 1-year-old is drinking low-fat milk.

- **Milk types** - There are many types of milk to choose from, like cow's milk, soy milk, goat's milk and almond milk.
- **Switching milk from whole to low-fat** - Remember that toddlers ages 1 to 2 need whole fat milk for healthy brain development and growth. However, after the toddler turns 2, they can switch to a lower fat milk as appropriate.
- **Juice and sugar-sweetened beverages** - Advertisements try to convince parents that many of the sugar-sweetened drinks are good for children. Sometimes you need to help parents learn how to decide if these drinks really are healthy for their children. Giving water and milk are always the best choices. If parents are providing fruit juices, the better options are 100% fruit juice in moderation. You can encourage parents to dilute the juice with water to decrease the sugar content per ounce that the child is receiving. Other drinks like soda, sweet tea, coffee drinks and sports drinks might not be marketed

towards children, but they may be drinking them if their parents are too. Encouraging parents to model healthy beverage intake can be a great way for the entire family to make a healthier change in the beverages they are choosing.

Balanced diet - It's always important to make sure that the children you are seeing are eating the most balanced diet possible based on their high risk and/or diagnosis. Here are a couple of talking points to better help our WIC families learn to create a balanced diet for their children:

- **Portion sizes** - Many parents are confused about what a portion size looks like for a child. Having some visual examples on hand can be very helpful for parents and children to see what a serving really looks like. Printouts or handouts of portion sizes, food models or objects that represent portion sizes are examples of ways to display portion sizes.
- **How to build a healthy plate** - Talk to parents and find out what they are putting on their child's plate. What does it look like? What size is the plate? What foods are on the plate? Does the child serve himself? After asking these questions, you will have a better idea of what nutrition education you may want to offer the family. For example, a parent tells you that they put hot dogs and crackers on the plate and milk in a cup. You may want to share tips with them on getting toddlers to eat more vegetables and challenge them to add a vegetable with every dinner to encourage the toddler to start trying them. Another tip is to make sure the child is eating off of a smaller child-size plate instead of an adult plate. This helps to put portion sizes into perspective. Some parents think their child might not be eating enough; however, once they put the food on a small plate and the child is able to eat all of the foods on the plate, the parents feel better and more confident about their child's diet.
- **No short-order chef** - Many parents do this, not because they are bad parents, but because they are so worried that their child will be hungry if they don't eat the meal prepared for the family. They end up making one or many other meal options for the child. This can create bad habits, so helping the parent take control of this early on can

set them up for healthy and happy meals together. Great references for this topic are Ellyn Satter books like *Child of Mine* or *How to Get Your Kid to Eat...But Not Too Much*. Both are great tools for learning about how to feed toddlers.

Healthy snacks versus unhealthy snacks - See if your agency has any tip sheets to share with clients that highlight healthy snacks for children. Some parents just don't know what to offer their kids or they get stuck in their routine. Talking with them about some healthy options that their kids may enjoy can be very helpful.

Reading food labels and shopping trips done right - There are many helpful tips you can share regarding this topic:

- **Farmers' markets** - These can be great places to buy locally grown produce and are fun for the whole family!
- **Staying on the perimeter of the grocery store** - Let parents know that the healthiest foods are usually on the perimeter of the grocery store. Encourage them to buy more foods from this area and less from the center of the store, which usually contains more processed foods. Fresh fruits and vegetables are always the best option. However, canned and frozen fruits and vegetables are a viable option for families and sometimes make getting fruits and vegetables in their diet easier. These foods are usually found in the center of the store, so these would be an exception to the 'perimeter' rule. Encourage parents to aim for fresh, canned or frozen fruits and vegetables.
- **Shopping when kids are full** - Taking kids to the grocery store can be challenging, especially if they are hungry. Encourage them to have a snack or meal before entering the store to help avoid buying foods that the parent may not have intended to buy.
- **Healthy attitude about foods** - The parents set the example for the children. Kids model and pick up on their parents' ideas and attitudes about healthy eating, body image and more. Encourage parents to live healthy lifestyles to pass on to their kids. Showing a

child how to eat healthy and that it can be fun and taste good will benefit them for a lifetime!

Physical activity - This is such an important topic that often gets overlooked, but it should be included in all nutrition assessments for children. You may assume that children get plenty of exercise; however, with game tablets, TV, video games and other more sedentary activities, children are getting less and less activity. You can help families come up with fun ways to get their kids active and moving around, such as taking walks, going to the park, doing yoga together with a YouTube video or pretending to be different animals. Children can be very creative so encouraging them to move around and use their imagination is great for their development as well as their health.

Programs for Children in Arizona

There are many excellent programs in Arizona that help children with their growth and development. Usually, when a child is not meeting developmental milestones, their pediatrician will refer them to one of the following two programs:

Early Intervention (EI) – Supports children from birth to the third birthday. This program is run statewide through the Department of Economic Security. For a free evaluation, you can refer families to the following website: <https://www.azdes.gov/AzEIP/>

Early Childhood Special Education (ECSE) - for ages 3 to 5 or until they start kindergarten. These services are provided through the family's local school district. For these families, you would refer them to their school district to request a free evaluation.
<http://www.azed.gov/early-childhood/preschool/preschool-programs/ecse/>

Both of these programs provide free evaluations to determine if the child has a developmental delay and would qualify for free services such as speech therapy, occupational therapy, physical therapy, social skills classes and special education preschools. These are wonderful programs that can help build skills for children and better prepare them for kindergarten.

Many of the children you may be seeing for high risk may also have a developmental delay due to other medical conditions. You can always check with the parents to make sure they have been referred to these programs for additional support and education for their children.



Critical Thinking Question:

Please go to the accompanying Workbook to answer Programs for Children in Arizona question 1.

Using Your Participant Centered Services (PCS) Skills

As a WIC RDN or MRN, we sometimes think that we can't be helpful or that we aren't credible to the participant if we have never gone through pregnancy, childbirth, breastfeeding and/or feeding a picky infant or toddler. This is not the case. Even though you may not have been through these experiences yourself, you can still help our WIC families to become more confident in feeding their children and learn some healthy tips and tricks to get their little ones off to a healthy start. Here are some helpful reminders about how you can use your PCS skills to help our families build confidence in feeding their children as well as build their trust and collect the information you need to complete your high-risk assessment:

Principles of Influence:

The Principles of Influence are a set of six principles that have been demonstrated to affect how people make decisions. Let's consider two of these principles and how you can use them in your daily assessments with our WIC participants:

Authority – The principle of authority is based on evidence that shows people rely on those with superior knowledge or expertise for guidance on how to act. As the RDN or MRN, you are the nutrition experts at WIC. We can encourage our WIC participants to see us as the

expert by sharing relevant nutrition knowledge and being trustworthy. Here are a few other ways that you can show that you are the expert:

- **Attire** - Dressing professionally can help clients recognize you as an expert. Wearing scrubs can have the same effect, so whether you dress in business casual attire or in scrubs, remember that the way you dress can affect the way our WIC clients see you.
- **Titles** - Your title as RDN or MRN says that you are an expert because you have earned your title. When you meet with a client, make sure you tell them your title. For example, “Hi Rosa, my name is Courtney and I’m the Registered Dietitian Nutritionist here and I’m happy to meet you today.”

Likability - When your clients like you, they are more likely to do what you are asking of them and take steps towards positive behavior change. Likeability is another principle of influence that shows how people make everyday decisions. People are more likely to say “yes” to people they like. Surprisingly, people are even more strongly influenced by thinking you like them than the other way around. You can become likable by being trustworthy and building rapport with the participants. Here are a couple of other ways to help you to be more likable:

- Smile when greeting the clients and use their name
- Offer compliments
- Listen to them and let them know you understand their concerns
- Using OARS (Open-ended questions, Affirmations, Reflections and Summaries)

For more information on the principles of influence, see Robert Cialdini’s book *Influence: The Power of Persuasion*.

Why use Getting to the Heart of the Matter (GTHM) tools?

As you go through your training, you may wonder why you would want to use the GTHM tools. They may seem strange and very different from your usual approach. As an RDN or MRN, you already

know how to do an accurate nutrition assessment. These tools may feel awkward at first, as do many new skills as you're learning to use them. However, learning to use the GTHM tools can open the doors of conversation by shifting the focus to the participant's feelings and motivations related to nutrition. This can allow the participant to be more open when asked questions that may be direct or intimidating. We wouldn't ask you to use them if they didn't work, and WIC counselors and RDNs have reported successes all across the state! Many of these parents of high-risk children may have walls up as protection, and using the GTHM tools can help to break those walls down and open up their heart to us. It may sound silly, but the more we can get our families to open up about their true feelings around their child's nutrition, the better our nutrition education and support for these families will be. We challenge you to try these tools to help you to create better conversations, assessments and behavior change with our WIC families!



Critical Thinking Question:

Please go to the accompanying Workbook to answer Using your PCS Skills question 1.

Module 2: Anthropometrics - The 100s Codes

The Anthropometrics section of the infant high-risk codes includes all codes that would occur from a weight or length measurement. Each anthropometric high-risk code is listed below with a definition and etiology, or cause, of the code and information related to completing a high-risk assessment on children. Activities include various codes to get you to stop and think about how you would ask questions to the parent or caregiver to keep the rapport that you are seeking to build **and** get closer to healthy behavior change!



103.1: Underweight or At Risk of Underweight

- Weight/length is at or below the 2nd percentile on WHO growth grid (C1) OR
- BMI/age is at or below the 5th percentile on the CDC growth grid (C2, C3, C4)

Definition

WIC is concerned with this risk because nutritional issues could be preventing the infant from gaining appropriate weight. Long-term undernutrition may cause damage to immune function, organ development, hormonal function and brain development. Some children are naturally small and this is different from being underweight (risk 103.1). However, true underweight may be a sign of dietary, health or emotional issues. As the WIC RDN, it is your job to assess the child to determine if there is a true nutrition risk or concern.

Etiology

When a child is underweight, it may indicate malnutrition. An undernourished child is more likely to become sick and may feel weak or tired, and have trouble focusing and concentrating. He or she may have stunted growth or developmental delays.

For more information, see Nutrition Risk Manual



Possible causes of being underweight:

- Not eating enough food
- Underlying illness, disease or malabsorption
- Stress
- Obsessive exercise
- Lack of interest in eating
- sudden growth spurt

Assessment

Talking with the family to get a better understanding, or picture, of the way the child routinely eats is very important. Using open-ended questions, you can collect a lot of information that can help you to better assess the client and determine the best nutrition education to offer the family.

Things to watch for:

- Are they offering too much milk or juice that may be causing a decreased appetite in the child?
- Are healthy meals and snacks being offered throughout the day?
- Is the child grazing on foods all day long which may be causing a decrease in appetite at mealtimes?
- Are they drinking Pediasure instead of eating food during meals?

Tips for increasing caloric intake:

- Adding avocado to meals and snacks - this is a healthy fat and if the child doesn't like them, they can be added to smoothies and sauces and go undetected
- Smoothies with whole milk or yogurt
- Peanut butter
- Carnation Instant Breakfast (CIB) added to milk - there is less sugar in CIB than in Pediasure

113: Obese (Children 2-5 Years of Age)

- BMI/age at or above the 95th percentile on the CDC growth grid (C2, C3, C4)

Definition

Children ages 2, 3 and 4 with a BMI/age at or above the 95th percentile are considered obese.

According to the Centers for Disease Control, health risks to children that are obese include, but are not limited to:

- Increased risk of impaired glucose tolerance, insulin resistance and type 2 diabetes
- Breathing problems, such as sleep apnea and asthma
- High blood pressure and high cholesterol, which are risk factors for cardiovascular disease (CVD)
- Joint problems and musculoskeletal discomfort
- Psychological stress such as depression, behavioral problems and issues in school
- Low self-esteem and low self-reported quality of life (1)

Etiology

Obesity in children is usually caused by one of three factors:

- Genetics
- Behavior - such as dietary and exercise habits
- Environment

Environment includes factors such as limited access to affordable and healthy foods, education and skills, food marketing and promotion, and the food and physical activity environment. (1)

Sometimes, these last few factors are overlooked as contributing to the obesity epidemic; however, they are a very important part of this complex issue. For example, a child that is being raised by a single parent in a low-income area might not have access to a safe playground at which to play. Also, his parent might be working full time and doesn't have extra time to take him to do any physical activity. Therefore, this child might not be learning the importance of exercise and physical activity.

Reaching an appropriate weight is important for kids to be healthy and avoid health risks; however, the emphasis should be on slowing weight gain, rather than weight loss, for what is expected for an increase in height.(2)

For more information, see Nutrition Risk Manual.



Assessment

Families' attitudes about their children's weight will vary, depending on the family unit. Some may not see their child as being overweight or obese, others may be aware but overwhelmed with making changes, while others may be actively making changes to live a healthier lifestyle. It is most helpful to tread lightly with how these conversations are approached. Avoid negative words like obese and fat, but use more neutral language such as high weight status, high weight-for-length, or excess weight. Here are some other tips for creating a successful appointment where the family leaves feeling empowered to make healthier choices:

Focus on the good - One of the best ways to do this is to encourage healthier behaviors rather than pointing out bad behaviors, which can push mom away and make her not trust you. Instead, explain a few healthy things that they can start doing to be a healthier family, such as: having at least one vegetable with dinner, taking a walk as a family in the evenings, drinking more water and choosing whole grains. Encouraging good behaviors and pointing out the benefits is a better approach than highlighting the unhealthy behaviors.

Use your PCS skills - Using the PCS skills will really benefit your conversations when talking to families about their children's weight. For example, a mom has described their child's usual eating habits and her concerns. You might say, "I can tell you are working really hard to raise a healthy family and sometimes that can be challenging to do. I'd love to share a few tips with you on how some of our other WIC families have been able to add some healthy steps into their day, which is helping them to raise a healthy family. Would you be interested in hearing what some of our other families have tried?" This example shows asking permission of the participant and uses the Principle of Consensus. In addition to these skills, always try to

affirm, affirm, affirm what the family is doing well. Cooking a meal once a week at home may not seem like a big change to us, but to a family that eats fast food seven times a week, cooking one of those days is a big deal! Acknowledge even the smallest healthy choice! (See the LMS course Principles of Influence for more information on these tools)

Don't overwhelm - If mom agrees to hear about healthy changes she can start making, only offer one or two things to try. Any more than that may be too overwhelming. Make sure these tips you are sharing are realistic for the family. For example, a busy single mom working two jobs and raising three kids might not be able to pick out vegetables, prep and cook them for the family every night. Instead, offer small steps to change such as trying frozen or canned vegetables that are easier to prepare and more achievable for the family. Then when the family is making these changes, you can start working with them on trying to add a fresh vegetable in place of a canned one, and so on.

Make it fun - With older kids, the 3- and 4-year-olds, you could play a game with them. Show them some food models or pictures of different types of foods and ask them to choose the foods that help them to grow up and be strong. Kids are eager learners, don't underestimate them! You can teach them about everyday healthy foods and foods that are ok to have every once in a while. Most kids love games and they can learn a lot from a simple interaction like this; plus, they might be more excited to come back to the WIC office next time!

Learn their lifestyle - It is important to understand the child's lifestyle and that of his family so you can offer the best tips and advice for this family. Tips that may fit the life of some of your WIC families include:

- Healthy and easy-to-make recipes for her family, or even meals that can be prepared on the weekends and then put into the oven or crockpot to cook during the week.
- Refer to free programs that offer physical activity in a safe and supportive environment, such as a park or community recreation center. Sometimes families are not aware of free programs to help teach children and families to eat healthy, learn to

get more exercise and why it's so important to our health. Share information about any other events such as free admission days at a local zoo or museum.

A great resource for these families is the MyPlate for Preschoolers website which has lots of helpful information. You can access this site at: <http://www.choosemyplate.gov/health-and-nutrition-information>



Critical Thinking Question:

Please go to the accompanying Workbook to answer Risk 113 question 1.



Take a closer look!

This risk code has a case study in the *Workbook*.

115: High Weight-for-Length (Infants and Children < 24 Months of Age)

- Weight/length is at or above the 98th percentile on WHO growth grid

Definition

When weight-for-length is at or above the 98th percentile on the World Health Organization (WHO) growth grid for a child less than 24 months, this high risk is assigned. The incidence of children less than 24 months that are above the 98th percentile has increased over the last several years. The possibility of obesity can occur at any age, since a child's eating habits begin to develop as soon as the infant is born or even before, such as in utero, as some research suggests.

Etiology

The most common causes of obesity in young children are poor diet and lack of activity. Poor diet might include:

- Non-nutritive foods - Chips, cookies, candy and soda are higher in sugar and/or fat and do not add any nutrition to the child's diet.
- Inappropriate portion sizes - Parents might be overfeeding their child without knowing it because they are offering portion sizes that are much larger than what the child actually needs.
- "Clean plate club" - This refers to encouraging children to eat everything on their plate (which as we just mentioned might not be the right portion size for the child's age) and not listening to their body when they are full. (2)
- Lack of healthy nutrient-dense foods - Fruits, vegetables, lean protein, dairy and whole grains are all very important parts of a child's diet, but because of poverty or preference, the child does not eat enough of these healthy foods.

For more information, see Nutrition Risk Manual.



Assessment

After their first birthday, an infant becomes a toddler and begins moving from a breastmilk or formula-based diet to one that includes foods of increasing variety and textures. They are becoming more mobile and wanting to feed themselves. This is the perfect time to help these families learn some healthy lifestyle changes they can make that will have a huge impact on their children and themselves.

Some of the issues that can lead to obese 1-year-olds may have begun during infancy or may be more recent. This risk, like risk 113 for older toddlers, is a very sensitive topic to discuss. Keep in mind that many parents don't see their young child as being overweight or obese. Many cultures view a fat or chunky baby as a healthier baby and believe that toddlers will grow out of being fat as they get older, but that is not always the case. The most important thing you can do is to get a very good understanding of what the toddler's day looks like, including all meals and snacks, activities, screen time (TV, iPad, smart phones, video games, etc) so that you can accurately assess the child's lifestyle.

It is important to note that we would never recommend that these families put their child on a diet. Restricting foods may impair growth and development. Instead, focus on helping the family to make healthier meal and snack choices and increase activity. Remember to focus on the positives and encourage more of the good things they are doing to raise a healthy family.

Here are a few topics you may want to discuss with the family:

Sleep - Is the child getting enough sleep? This is a very important part of a healthy lifestyle and studies show that children that do not get enough sleep are at higher risk of becoming overweight and obese. One-year-olds need 12 to 14 hours of sleep each day, including one to two naps. (1)

Screen time - Families may not realize that screen time could interfere with the amount of activity the toddler gets. Recommend that they minimize screen time and have more active play time with their kids, like playing tag, taking a walk, pretending to be different animals. Even regular play requires more activity than sitting in front of a screen. Also let parents know that they have to create the balance that works best for them. Many families get some screen time, but urge them to set limits and be sure that their child still gets time to be active and play.

Portion sizes - This topic comes up often and can be very helpful for families of children with this risk. Help them understand what portion sizes look like and show them how to build a healthy plate for their whole family at meals.

Play time - Young children are just beginning to crawl, walk and even run, so it's important for their health and their gross motor development to keep moving around. Encourage parents to create fun games with their kids, like building tunnels to crawl through, having a dance party with some fun music, going to the park or even just taking a walk to explore the neighborhood.

Healthy nutrition habits – Only offering water between meals and snacks, limiting juice to four to six ounces per day, keeping milk intake to no more than 24 ounces per day, setting times for meals and snacks and offering healthy snacks are all tips that you can offer families to help them get on track and teach their young child healthy nutrition habits.



Critical Thinking Question:

Please go to the accompanying Workbook to answer Risk 115 question 1.

134: Failure to Thrive

- Diagnosed by a health care provider with failure to thrive

Definition

Failure to thrive (FTT) is a highly complex medical condition with multiple factors causing poor growth, low weight and/or height in children. There are a few indicators that health care providers use to diagnose FTT, which include:

- Weight consistently below the 3rd percentile for age OR
- Weight less than 80 percent of ideal weight for height/age OR
- Progressive fall-off in weight to below the 3rd percentile OR
- A decrease in expected rate of growth along the child's previously defined growth curve without regard to the 3rd percentile (1)

Etiology

Failure to thrive (FTT) is a highly complicated diagnosis. There are several reasons as to why a child may be diagnosed with the disease which are classified into four major categories:


1. Inadequate energy intake
2. Inadequate absorption
3. Excess metabolic demand

4. Defective nutrient utilization

Some of the medical issues or diseases that could cause failure to thrive include, but are not limited to:

- Developmental delay
- Gastroesophageal reflux (GERD)
- Cystic fibrosis
- Cerebral palsy
- Congenital heart defects
- Inborn errors of metabolism
- Vitamin D deficiency (2)

Behavioral and environmental issues could also play a major role in a child being diagnosed with FTT. These types of issues could include: not having meal structure, allowing the consumption of milk, juice or soda in between meals, eating meals in front of the TV and more. (2, 3)

For more information, see Nutrition Risk Manual. 

Assessment

The family of a child that is FTT should be working closely with the pediatrician to make sure the child gets back on track with their nutrition and weight gain. Sometimes, these parents still need support and helpful ideas on how to help their child gain weight. Here are some tips you can share and also some issues you may face when working with these families:

Mealtime tips

- Offer milk during mealtime and only water in between meals. Decrease juice, soda and other sweetened drinks to no more than four to six ounces each day.
- Set a structure of three meals and two snacks during the day. Have mealtimes for a set amount of time, usually about 20-30 minutes.

- Do not force the child to eat or punish the child for not eating. Instead, end the meal or snack time and try again at the next meal. (2)

Pediasure

- This nutritional supplement is great way for some children to improve their nutrition, in addition to lifestyle and diet modifications. However, this should not be a meal replacement, but rather an additional source of calories. Pediasure should be given after meals are eaten to encourage consumption of food first and the supplement afterwards. Carnation Instant Breakfast (CIB) is another option for these families. CIB has many of the same nutrients as Pediasure but has less added sugar and can be added to the milk the child is drinking. It is also much cheaper than Pediasure if the family is buying it themselves.



Critical Thinking Question:

Please go to the accompanying Workbook to answer Risk 134 question 1.



Take a closer look!

This risk code has a case study in the *Workbook*.

135: Inadequate Growth

- Two weights taken at least three months apart in which average actual weight gain is less than expected for age

Definition

Weight is an objective indicator that nutritional status may be acutely compromised. Inadequate growth is defined as a rate of weight gain that is lower than expected. This rate of weight gain can be defined in two ways. The first is based on two weights that are taken at least three months apart and the child's weight gain is less than the expected gain based upon the table below:

Age	Average/Day	Average/Week	Average/Month	Average/6 Months
12-59 months	2 ½ g/day	0.6 oz/week	2.7oz/month	1lb/6 months

Table from Nutrition Risk Manual.



The second way to define Inadequate Growth is by taking a weight every six months (+ or - about two weeks) and having the weight gain fall below the guidelines in this chart:

Age (in months) at end of 6-month interval	Weight gain per 6-month interval in pounds
12	Less than or equal to 3
18-60	Less than or equal to 1

Table from Nutrition Risk Manual.



Etiology:

Inadequate growth may be caused by medical or metabolic conditions, poor eating habits, or genetics, like if both parents are short and petite). This risk is a concern because of the possibility of an underlying medical condition going undiagnosed or getting diagnosed much later. We want children

to reach their full growth potential, so if medical conditions or poor eating habits are slowing their growth, we want to address the issue to get growth back on track.

For more information see Nutrition Risk Manual.



Assessment

If the child has been diagnosed with a medical condition, it is important to understand how their growth could be affected and make sure that the family is continuing to follow-up with health care providers.

When growth is affected by poor eating or unhealthy habits, the WIC RDN can help the family see the problem and then make goals to change the unhealthy habit or behavior. Topics that you may want to cover with families include:

- **Family mealtimes** – Structured mealtimes for children are important. If kids are allowed to snack all day long, they will eat less at meals and will probably be eating less caloric and nutrient-dense foods. Eating together at mealtimes has been shown to have a positive influence on the amount of food that children eat.
- **Increase calories** - Offering foods that are more nutrient dense can increase calories consumed and thereby promote weight gain and growth. Adding cheese to vegetables and making smoothies with ingredients such as peanut butter, vegetables and fruits are easy ways to increase calories.
- **Get the kids involved** - From grocery shopping to preparing the meal to setting the table, having toddlers participate in the process may help them be more willing to eat the foods that are offered.
- **Make it fun** - Have themed dinners or meals; for example, for Under the Sea Night, seafood is made and tried by everyone in the family. This is a fun way to get kids involved and encourage them to try new foods. Families can decorate the table to coordinate with the theme!

- **Decrease distraction** - Limit screens during mealtimes. That means parents too! Have the table be a “no phone zone” so everyone is present and focused on eating the meal.



Take a closer look!
This risk code has a case study in the *Workbook*.



141: Low Birth Weight (C1 only)

This is one of the high risks that can be seen by a Medium-Risk Nutritionist (MRN).

- Birth weight less than or equal to 5 pounds 8 ounces (can be assigned to C1 only)

Definition

Low birthweight (LBW) and very low birthweight (VLBW) are defined as infants and children less than 24 months of age that were less than or equal to 5 pounds 8 ounces (2500gm) (LBW) or 3 pounds 5 ounces (1500gm) (VLBW) at birth.

For more information, see Nutrition Risk Manual.



Etiology

Low birth weight is usually caused by one of two things: prematurity or fetal growth restriction. Children with LBW can have severe complications that can affect them throughout their life, including:

- Brain bleeds
- Respiratory distress syndrome
- Necrotizing enterocolitis (NEC)
- Retinopathy of prematurity
- Patent ductus arteriosus (heart condition that can lead to heart failure).

Children born with LBW are also at a higher risk for medical complications during childhood or even later in life. Some of these complications can include:

- Diabetes
- Heart disease
- High blood pressure
- Metabolic syndrome
- Obesity (1)

Assessment

It is important to remember to take accurate weight and length measurements for these kids in order to track their progress since they were last in the WIC office. The child is most likely being followed by a health care team since the complications of LBW are so severe. As they age, many of these children catch up on their weight gain and come into normal ranges. However, they may still have challenges in learning and other areas. Make sure to ask about any changes to the child's health status. They may have been diagnosed with additional medical conditions related to LBW.




142.1: Prematurity (C1 only)

This is one of the high risks that can be seen by a Medium-Risk Nutritionist.

NOTE: Code 142.2 Early Term is not a medium or high risk referral. The Nutrition Care Manual uses USDA's definition of 142 to include both Preterm and Early Term infants. Arizona WIC has chosen to divide 142 into 142.1 Preterm (prematurity) and 142.2 Early Term categories to enable HANDS to auto-assign the high risk designation for preterm infants without including early term infants.

- Born at or less than 37 weeks gestation

Definition

Prematurity is defined as an infant that is born at or prior to 37 weeks gestation. During the last trimester, the fetus is continuing to develop and mature and even the final few weeks are an important stage of development. The earlier the baby is born, the more severe the health problems may be. According to the CDC, more babies die from prematurity-related problems than any other cause. For more information, see Nutrition Risk Manual. 

Etiology

Some common causes of prematurity include:

- Infections
- Diabetes
- High blood pressure
- Multi-fetal gestation
- Carrying multiple babies
- Smoking, alcohol and illicit drug use during pregnancy (1)

Children who are born prematurely have a higher risk of death and medical problems as they age, including:

- Neurological issues
- Hearing impairment
- Vision issues
- Breathing difficulty
- Developmental delay
- Cerebral palsy
- Feeding difficulties (2)

Assessment

There are a couple things to keep in mind when assessing premature children:

Corrected age - It is important to use the child's corrected age when assessing a child until 2 years of age, which is usually when they catch up developmentally. This is done using the following formula:

$$(\text{Actual age in weeks}) - (\text{weeks premature}) = \text{Corrected Age}$$

Developmental challenges - Many of these children will catch up by age 2; however, they may continue to have challenges in different areas of their development. Although the child's pediatrician should be checking to make sure the child is still meeting developmental milestones, you can let the mom know that if she has any concerns or wants to have her child assessed, she can contact the Early Intervention program (See Module 1: Introduction for more information on these programs).

Other medical conditions- Be aware that these children may also have other medical conditions due to their prematurity. Ask questions and allow the parent or caregiver to explain how the condition affects their child's nutrition.



Critical Thinking Question:

Please go to the accompanying Workbook to answer Risk 142 question 1.

Module 3: Biochemical and Clinical - The 200s and 300s Codes

In this section we will cover the Biochemical and Clinical High-Risk Codes. These codes include conditions detected by blood tests and other medical conditions. In some cases nutrition can be adversely affected by a medical condition. In other cases improper nutritional intake may cause a medical condition. Either way, WIC can help by providing the nutrition and support for what the family may be experiencing.

Overview of Anthropometrics: 200s

This Biochemical section of the High-Risk Guidebook for Children has the code relating to anemia for children (201.1). The WIC RDN and MRN can add valuable information and resources for these families as they evaluate the nutrition that their child is receiving and choose the best options for the family to reach better health outcomes.



201.1: Low Hemoglobin

This can be referred to a Medium-Risk Nutritionist when in the Nutritionist range

- Hemoglobin below the Nutritionist cut-off level

See the Nutrition Risk Manual for cut-off values tables.



Definition

Iron deficiency anemia is a condition in which the blood doesn't have enough healthy red blood cells. When there is not enough iron in the blood, the body cannot produce hemoglobin (Hg), which is an iron-rich protein found in red blood cells that carries oxygen throughout the body. Hemoglobin and hematocrit (Hct) are commonly used to screen for iron deficiency anemia. When red blood cells are low in hemoglobin, it usually means that there is also low iron in the blood. Hematocrit is the portion of red blood cells within the blood, so when there are low red blood cell levels within the blood, this is also a good indicator of low iron status. At WIC, we use the Centers for Disease Control (CDC) cut-off values to determine if a child is at risk for iron deficiency anemia. See the Nutrition Risk Manual for cut-off values tables.

Etiology

Iron is an essential nutrient in the body for growth and development to occur. Iron deficiency anemia can occur from low intake of iron, increased loss of iron, or increased need for iron. (1) When the deficiency is severe, enough the body responds in some of the following ways:

- Extreme fatigue
- Skin pallor
- Weakness
- Chest pain
- Shortness of breath
- Dizziness
- Headaches
- Cold hands and feet
- Fast heartbeat
- Poor appetite and more (2)

Assessment

When iron deficiency anemia is diagnosed, the great news is that in most cases, it can be reversed. By including the right types of foods in the diet and taking iron supplements, children can increase their iron stores and live healthy lives. Here are some of the topics you may want to discuss with your WIC families:

Supplements - A child with iron deficiency anemia may be given iron supplements from their pediatrician. You can check to see if this is the case with your participant and that they are using the supplements appropriately. Encourage children to take these supplements and talk with their health care provider if they have concerns about their child's supplementation.

Composition of meals - Parents may not know of foods that their child can eat to increase their iron levels. Talk about the foods and encourage iron-rich foods with every meal. Iron from meat, fish and poultry are better absorbed than iron found in plants. Another piece of information to share with parents is that including foods that contain vitamin C with iron-rich

foods allows the body to better absorb iron. Foods high in vitamin C include: citrus juice and fruit, dark green and leafy vegetables, potatoes, and melons. (1)

Vegetarian diets - Children can receive adequate iron while eating a vegetarian diet.

However, the bioavailability of iron, or the body's ability to absorb it, from vegetarian diets is 10% compared to 18% for diets containing meat. Parents will have to be even more intentional to include iron-rich foods in their child's diet. Some examples of iron-rich foods that fit into a vegetarian diet include: whole grains, enriched grains, iron-fortified cereals, legumes, green and leafy vegetables, dried fruit, tofu and egg yolks. (1)

Overview of Clinical Codes: 300s

All of the 300s codes must be diagnosed by a medical professional such as a pediatrician. Although you won't be providing medical nutrition therapy like in the clinical setting, your assessment and support can help families successfully meet the needs of their child. By learning what recommendations and treatment plans health care providers have prescribed, you can explain and clarify information for WIC clients who have questions or feel overwhelmed.

Communication between the WIC RDN and the participant's health care provider is encouraged, especially if there is a concern with the treatment plan. If treatment disagrees with evidence-based practices or seems inappropriate given the circumstances, the RDN should consider calling the doctor to clarify the treatment plan. If clarification is needed after your nutrition assessment is complete, calling the child's pediatrician can help you better understand the treatment plan. Having a conversation with the health care provider to let them know your concerns about this treatment plan and what your recommendations are can help to determine the best course of action for the child.

General Assessment for 300s:

Most children with a clinical nutrition-related disease or diagnosis will already be following a specific diet or nutrition care plan (NCP) prescribed by their medical team or RDN. Although you may not be

creating an NCP for children already following a treatment plan provided by a health care provider, you'll still need to assess their nutrition. While you may understand the diagnosis, it is important to check the family's understanding by asking them to explain the child's condition and/or diagnosis to you. Ask them if the child is being followed by a health care provider or other medical professionals like an RDN. It is important to discover what the medical professionals have advised for a nutrition plan or NCP for this child. You may find that this family is not well informed or is confused about the NCP. Open-ended questions will help you learn what the family understands in a respectful, friendly way without assuming they know and understand everything about their child's diagnosis.

Recommendations and Tips for Assessment:

- Assess the impact of the medical condition on the child's health. It is important to understand how the clinical or medical condition will affect nutritional needs and how to make appropriate referrals when necessary.
- For some families it can be very stressful and emotional to discuss their child's diagnosis, so try focusing on positive changes and progress. For example, asking the family what new activities the child has been participating in, what new foods they have recently tried or what is their favorite thing to do with their family. This can help decrease the stress and anxiety the family might be experiencing and help build rapport.
- Find out what the health care providers have explained to the family about the child's condition/diagnosis and make sure they understand what they have been told.
 - Do they understand the disease?
 - Do they have an NCP and are there any misunderstandings of how to manage and care for the child's condition?
 - Do they understand the importance of continuing to receive medical care for the child?
- Family's coping strategies - Chronic diseases in children can be very stressful and hard on a family or caregiver. Find out if a medical team works with the family, if family and friends

support them, and whether they have community support. This is a perfect time to find out more information about possible referrals you can make.

341: Nutrient Deficiency or Disease

- Diseases caused by insufficient intake of nutrients

Definition and Etiology

The nutrient deficiency disease code includes diseases that cause an insufficient intake of nutrients. Children who have nutritional problems, are born prematurely, or have other chronic diseases that interfere with nutrient absorption will be at greater risk for any or all nutrient deficiencies.

Some of these diseases seen in children include, but are not limited to:

- **Protein-energy malnutrition (PEM)** - This is caused by a lack of protein in the diet, which can also be low in energy. In the United States, PEM is more commonly seen as a secondary complication to diseases such as cancer, AIDS, chronic kidney disease and other disease that impair nutrient absorption. (1, 2)
- **Kwashiorkor** - Also known as wet PEM (inadequate protein leading to edematous fluid retention), it is a protein deficiency. This might be seen in children not being fed a nutritious diet.
- **Marasmus** – This is also a PEM disorder; however, this is caused by overall calorie/energy deficiency rather than just from protein deficiency. In children, this might be seen with other medical conditions or severe diarrhea.
- **Scurvy** - This is a vitamin C deficiency and is pretty rare in children today. Although rare, it occurs when children either have not been consuming foods high in vitamin C or have another medical condition, such as celiac disease, that impairs absorption. After one to three months of vitamin C deficiency, children can have shortness of breath and extreme pain and tenderness in the arms and legs. Scurvy is usually accompanied by poor weight gain. (3)

-
- **Rickets** – This is from prolonged and severe vitamin D deficiency due to lack of sunlight, lack of vitamin D in the diet or absorption problems. This can cause bone malformation and lead to bowed legs. (4)
 - **Beriberi** – This is thiamine (B1) deficiency, which can occur due to dietary, environmental and physiological factors. This disease can affect the cardiovascular system (wet beriberi) or nervous system (dry beriberi) and most times, with treatment involving supplements or injections of thiamin, levels of thiamin return to normal. (5)
 - **Menkes disease** - This is a copper deficiency caused by a gene mutation; treatment involves copper injection therapy. RDNs can help with treatment of one of the symptoms of this disease, which is failure to thrive. (6)

For children participating in the WIC program, the prevalence of inadequate intakes of nutrients was found to be less than 5% for each nutrient, except vitamin E, which was found to be inadequate in the diets of 34.9% of children between 2 and 5 years of age. Additionally, it has been estimated that one in four children does not meet the RDA for iron, and one in ten does not meet the RDA for calcium.

For more information, see Nutrition Risk Manual.



Assessment

Micro- and macronutrients are needed for our bodies to function properly. Being aware of a disease that a child can develop allows the RDN to recommend foods that contain the nutrient(s) needed in the child's diet. In general, a child that eats a balanced diet, with foods from all the food groups and has no underlying medical conditions, will have adequate nutrients in their diet.

As with other clinical risk codes, make sure the family understands the disease and the nutrients lacking in their child's diet. If the child needs to increase these nutrients in their diet as a nutrition treatment or intervention, make sure the family understands what foods to provide to help meet these needs.

342: Gastrointestinal Disorders

- Gastroesophageal reflux disease (GERD), peptic ulcer, short bowel, inflammatory disease, etc.


Definition and Etiology

Gastrointestinal (GI) disorders are a broad category that could describe several conditions from which a child can suffer. GI disorders that are commonly seen in children include: gastroesophageal reflux disease (GERD), biliary tract disease, short bowel syndrome (SBS), inflammatory bowel disease (IBD) and liver disease. A few of the most common conditions include GERD, SBS and IBD.

GERD occurs when contents from the stomach are refluxed or come back up into the esophagus. GERD is typically caused by weakness of the lower esophageal sphincter. Symptoms can include: burning sensation in the chest, dysphagia (difficulty swallowing), sore throat and the regurgitation of food. (1)

SBS is when there is an insufficient amount of the small intestine. This could be due to a recent surgery, necrotizing enterocolitis (NEC), or other conditions like Crohn's disease. Due to the lack of small intestine, the breakdown and absorption of nutrients may not be sufficient. Symptoms will look similar to someone with nutrient malabsorption, such as: weight loss or inability to gain weight, dehydration, diarrhea, and fatigue. (2)

IBD is a broad term that describes a recurring disease of the intestines. Two of the most commonly diagnosed diseases are Crohn's disease and ulcerative colitis. Crohn's is a chronic inflammation of the gastrointestinal tract and can affect any portion of the GI tract from the mouth to the anus while ulcerative colitis is chronic inflammation in just the colon. Causes of these diseases are not known, but it is thought that genetics and environmental factors both play a role. Symptoms of these diseases are very similar and can include: diarrhea, rectal bleeding, abdominal cramps and pain, and more. (3)

For more information, see Nutrition Risk Manual. 

Assessment

Some of the concerns or talking points for GERD include:

- **Thickening liquids** - For severe cases of GERD, children may need to be on a texture-modified diet. Thickening liquids will help decrease the amount of regurgitation or reflux that occurs. Be aware that children may come to WIC already on this type of diet. For those who continue to have symptoms with thickened liquids, you can refer them to the healthcare provider or outpatient RDN. If you see children with GERD who have not tried thickened liquids, you can suggest they discuss it with their health care provider as a possible treatment.
- **Foods to avoid** - There are a few foods that can make GERD symptoms continue. Those foods include: caffeine, chocolate and spicy foods. Talk with the families about other options in the child's diet to replace any of these irritants to allow for better health and less pain.
- **Eat smaller meals** - Reducing the amount eaten at a meal can decrease the chance of regurgitation or reflux. Encourage six smaller meals throughout the day to reduce amounts consumed at one sitting compared to a three-meal-per-day pattern. (4)

Some main concerns for SBS include:

- **Micro- and macronutrient malabsorption** - This can occur, depending on what part of the intestine is missing. Supplements or injections of nutrients may be prescribed for the child.
- **Parenteral or enteral nutrition** - Children may come to WIC with enteral feeding tubes due to SBS. Assessment of appropriate formula for the child and referrals for additional formula (if needed by the family) should be provided. If the participant has AHCCCS medical insurance (Arizona's Medicaid program), then home delivery of enteral formula and supplies can be arranged.
- **Water-soluble fiber** - For children with intact colons, water-soluble fiber has been shown to lengthen time in the intestinal tract. (5) This is a treatment that should be followed by a health care provider since too much fiber can cause gas, bloating, and further malabsorption or obstruction. (6)

Some things to consider for IBD are:

- Intake when symptoms are present - Eating small, frequent meals that are low fiber, low residue (no skin on fruit, well-cooked vegetables); high protein (with a focus on lean meats); and avoiding caffeine and sweets can help to heal the acute flare-up. (7)
 - Supplements- Daily vitamins including calcium, vitamin D, omega-3 fatty acids, probiotics and prebiotics may benefit the child. Encourage the family to talk with their health care provider about the best options for their child. (7)
-

343: Diabetes Mellitus

- Type 1 or type 2

Definition and Etiology

Diabetes mellitus (DM) is a group of metabolic diseases characterized by inappropriate hyperglycemia (high blood sugar) caused by defects in insulin secretion, insulin action or both. (1) DM is a disease where there is too much glucose in the blood. The body cannot use insulin properly so the pancreas makes more, but eventually the pancreas is unable to keep up with the demand of insulin. This causes the cells to not have enough energy and causes complications with kidneys, eyes and nerves over time.

Type 1 DM is a condition where the pancreas stops producing enough insulin to adequately digest the carbohydrates or sugars that are consumed. This is a chronic condition that will usually require lifelong use of insulin medication for the child. Type 1 usually occurs with an abrupt onset of symptoms including: polyuria (excessive urination), polydipsia (excessive thirst), substantial weight loss. (2) Only about 5% of people diagnosed with DM have type 1. (3)

Type 2 DM is a condition in which there is insulin being produced by the body, but it is not working properly or there is not enough insulin being produced. Children with type 2 DM will need regular blood glucose monitoring to keep their levels on track. Type 2 DM can develop more gradually than type 1, and some of the signs and symptoms of the disease include: darkened skin, fatigue, slow-healing sores, polyuria (excessive urination), polydipsia (excessive thirst) and polyphagia (excessive hunger). (4)

For more information, see Nutrition Risk Manual.



Assessment

Discussing the child's diagnosis with the family is very important. This will help you gain important information such as how much the parents understand the disease, how much support they have, what type of medical team they are working with and any questions they may have. If the child has not been seen by an outpatient RDN, we highly recommend that they be seen. Working with an outpatient RDN can help the family feel supported with the details of the disease and obtain the best results for managing insulin and glucose levels.

Some of the main things you may want to discuss with parents or caregivers with children who have type 1 DM include:

- **Hypoglycemia** - Checking glucose levels is very important to avoid the dips in levels that can cause hypoglycemia. Encourage parents to carry snacks with them at all times to help blood glucose levels return to normal in the event of a sudden decrease.
- **Consistent eating** - Setting an eating schedule and sticking to it will be very beneficial for these children. Consistency keeps the child's body in a routine and will help to better predict how their blood glucose will react before and after eating. It also gives a frame of reference to help assess what factors may be contributing to unexpected blood glucose levels .
- **Variety of foods** - Providing a variety of foods will allow the child to be exposed to more options. This is helpful when a child only wants to eat one thing all the time or if the child is really picky. Encourage the parent or caregiver to provide two to four types of foods from different food groups to allow the child to try new foods. Remind parents they can help by modeling behaviors for children. If they eat and enjoy a variety of foods, the child may begin to eat them as well. (2)

Things to consider with type 2 DM include:

- **Weight loss or maintenance** - Discuss what the child's medical team has recommended. Healthy meals and snacks that limit soda, sweets and added sugars may need to be discussed and ideas given to the family.
- **Exercise** - Sixty minutes of physical activity is recommended for children with type 2 DM. Encourage families to get active together! Take walks, ride bikes, play soccer, football or baseball together. Find what is enjoyable for everyone and do it together.
- **Encourage glucose self-monitoring**- Find out what information the child's health care team has discussed regarding taking glucose levels. (2)



Critical Thinking Question:

Please go to the accompanying Workbook to answer Risk 343 question 1.

345: Hypertension and Prehypertension

- High blood pressure

Definition and Etiology

Hypertension (HTN), also called high blood pressure (HBP), is when the force of the blood inside the arteries is too high. If this increased force or pressure continues without treatment it will have damaging effects on the heart, kidneys, blood vessels and other areas of the body. Blood pressure is measured by systolic (the pressure of the blood as the heart beats) and diastolic (pressure of blood when heart is at rest). (1)

Most often in young children (before puberty), hypertension is a result of another medical condition but can be a primary condition as well. One common complication of HTN in children is sleep apnea. HTN that continues into adulthood increases risk of heart attacks, stroke, heart failure and kidney disease. It is important to note that children who are obese have three times the risk for developing HTN. (2)

For more information, see Nutrition Risk Manual.



Assessment

Health care providers often recommend that children eat a heart healthy diet (such as the DASH diet, see below) and exercise as a treatment for HTN and try to avoid medications if possible. For this reason, it's very important to make sure the family understands what a heart healthy diet is and how to get their kids into exercising. Here are some topics you may want to discuss with these families:

DASH diet (Dietary Approaches to Stop Hypertension) - This diet can be recommended for children. It includes reducing total fat, saturated fat, cholesterol and sodium while increasing consumption of fruits, vegetables, low-fat dairy products and nuts. (3) It's important for these children to maintain a healthy weight, so discussing other healthy nutrition topics is also very helpful.

Exercise - Aerobic and isotonic exercise have direct benefit on blood pressure. (2) Making fitness a part of the family's lifestyle will give them healthy habits for life. Sometimes exercise may be restricted for severe cases of HTN. Discuss what the child's health care provider has recommended in terms of exercise.

Potassium supplementation - This has been shown to decrease blood pressure. If the child is not taking potassium, it would be reasonable to encourage intake of foods high in potassium, such as: dark leafy greens, squash, beans, fish, avocado and banana. (2)

346: Kidney Disease

- Any kidney disease (does not include bladder infections)

Definition and Etiology

Renal, or kidney, disease includes any type of disease relating to the kidneys, but excluding urinary tract infections. The main types of kidney disease include: chronic kidney disease and nephrotic syndrome.

Chronic kidney disease (CKD) is when kidney function has decreased for three or more months, which can be caused by hypertension or diabetes. CKD is classified from stage 1-5, with stage 5 needing dialysis or transplant. (1) This disease can be caused by various factors, including:

- Birth defects
- Infections
- Trauma
- Urine blockage (2)

Nephrotic syndrome (NS) can cause a group of symptoms including: proteinuria, hypoalbuminemia, dyslipidemia and edema. In young children, NS is almost always caused by congenital diseases, underlying diseases or infection. (3)

For more information, see Nutrition Risk Manual.



Assessment

It is very important for these families to understand the child's diet since the diet impacts how well the kidneys function. Here are some topics you may want to discuss with these families:

CKD

- Parents and children will need to learn what foods to monitor. There are some nutrients that the child should not be getting too much or too little of, including: protein, sodium, phosphorus and potassium. For example, some parents may mention that their child should not be eating certain fruits and vegetables, which may be true since some fruits contain more potassium than others. Assess what the parents understand about what types of foods in which these nutrients are found. (2) For more information on nutrition in children with CKD, go to National Institute of Diabetes and Digestive and Kidney Diseases website, namely Nutrition for CKD in Children:
<http://www.niddk.nih.gov/health-information/health-topics/kidney-disease/nutrition-for-chronic-kidney-disease-in-children/Pages/facts.aspx>

NS

- **Sodium intake** - One of the most important things for children with NS is to decrease sodium intake to reduce edema. Providing families with knowledge of sodium in foods will be beneficial. Discussing reading nutrition labels, decreasing packaged and processed foods, and providing information on how to make low sodium choices when eating out can help to support the family. (4)
- **Medications** - Many children with these types of conditions may be put on prednisone, which can cause an increase in appetite and, therefore, excess weight gain. You may want to discuss this with parents in order to educate them or provide alternate food choices for healthier and less calorie-dense foods for their child. (4)

347: Cancer

- Any cancer

Definition and Etiology

Cancer is the uncontrolled growth of abnormal cells in the body. The most common types of cancer seen in children are leukemia, brain tumors, lymphoma and soft tissue carcinoma. (1)

Having healthy nutrition during cancer treatment can help:

- Continue normal growth and development
- Have more strength and energy
- May have less risk of infection
- Heal and recover faster
- Keep up their weight and body stores of nutrients

For more information, see Nutrition Risk Manual.



Assessment

These families should be working closely with the child's medical team on their nutritional needs and intake recommendations, and as the WIC RD, you can help ensure the family has a good understanding of these recommendations. Here are a few challenges that these children may be facing:

Appetite changes - Cancer treatments can affect appetite, so support these families by sharing some ways to help the child eat:

- Making mealtimes fun - make colorful plates, have fun music playing during meals and snacks, have breakfast for dinner
- Small frequent meals and snacks instead of three large meals
- Let the child help pick out healthy foods at the grocery store
- Help the child to keep their mouth moist
- Avoid arguing and punishing when the child is not eating

Constipation – Cancer treatment, decreased activity and diet/appetite changes can affect the motility in the gut, so constipation may occur. Encourage higher fiber foods such as whole grains, fruits and vegetables and legumes to help with this discomfort.

Mouth dryness - Some types of treatment for cancer can cause dry mouth which can make it hard to eat. Here are some tips you can share about helping with this discomfort:

- Take small bites and chew the food well
- Serve foods that are soft and at room temperature
- Moisten foods with broth, soup or yogurt to make them easier to eat
- Avoid drinks with caffeine or high acidity drinks like some fruit juice

Nausea and vomiting - Another side effect of treatments, this can lead to decreased appetite and intake. Try sharing these tips with families to help increase intake:

- Bland foods with minimal or no odor
- Avoid sweet, spicy, fatty or fried foods
- Sipping on water or eating crackers, plain toast or dry cereal (2)

There are many other side effects these children may face that affect their nutrition status and intake. For more information, go to:

American Cancer Society: Nutrition for Children with Cancer

<http://www.cancer.org/treatment/childrenandcancer/whenyourchildhascancer/nutritionforchildrenwithcancer/index>

348: Central Nervous System Disorders

- Epilepsy, cerebral palsy, neural tube defects, Parkinson's or multiple sclerosis

Definition and Etiology

Central nervous system disorders are classified as high risk because of the effect the disorder has on energy requirements, the ability to feed oneself, and because they alter the nutritional status metabolically, mechanically or both. These conditions include: epilepsy, cerebral palsy, neural tube defects, Parkinson's disease and multiple sclerosis.

For more information, see Nutrition Risk Manual.



Central nervous system disorders include a variety of conditions with very different effects on growth and development, nutrient needs, medical support and home care therapies. We recommend reviewing the Recommendations and Tips for Assessment at the beginning of this section to communicate effectively with the family. It is important to explore the degree of impact the CNS disorder has on their child's daily needs and how WIC can best coordinate the care we provide with the health care provider(s). The most common CNS disorder in kids is epilepsy.

Epilepsy is a condition in which the infant has seizures which can be caused by illness, abnormal brain development in the womb, genetic disorders, infection in the brain, meningitis, or sometimes an unknown cause. (1)

Cerebral palsy (CP) describes disorders that impair the control of movement due to injury to the developing brain. CP is caused by infections, birth injuries, and poor oxygen before, during or immediately after delivery of the infant. (3)

Neural tube defects, most commonly spina bifida, is a permanent disability where the spine does not completely close around the spinal cord while the infant is in the womb. Genetic and environmental factors together are thought to cause the defect. It can be prevented by encouraging women of childbearing age to take 400 micrograms of folic acid. (4)

Parkinson's disease and **multiple sclerosis** are conditions that can occur in infancy but are very rare in this population. Parkinson's disease is a slowly progressing neurodegenerative condition where dopamine is no longer made in the brain. This makes it harder to control extremities (arms and legs), emotions and movements. (5) Multiple sclerosis is an abnormal response of the immune system where it attacks the central nervous system, causing fatigue, walking difficulty, vision problems, numbness, weakness, cognitive changes and more. (6)

Assessment

Epilepsy

- **Ketogenic diet** - This diet is sometimes used when medications and other treatments are not helping with the seizures. It is not something that a WIC RDN would be prescribing, as initiation onto this diet usually requires hospitalization. It is good, however, to be aware of the diet, as participants could already have started this diet before you see them. This diet is low in carbohydrates and high in fats and includes protein to help with growth and development. It creates ketones and the body functions normally when using these ketones for energy; however, without strict adherence to this diet, the ketosis will not occur. Even one high-carbohydrate snack can destroy ketosis. (1) You can support these families and children by encouraging adherence to the diet and helping them to better understand other low-carbohydrate/high-fat meals and snacks they can offer their child.

Cerebral palsy


- **Oral-motor issues** - These children may exhibit poor oral motor skills: poor lip closure, hyperactive gag reflex and swallowing difficulties, so thickening feeds may be required for successful feedings to occur.
- **Referrals** - Community agencies (early intervention programs) and child nutrition programs (preschools) can and must provide modified meals (by public law 192-119) when the family brings a prescription from their doctor. (7)

349: Genetic and Congenital Disorders

Cleft palate, Down syndrome, muscular dystrophy

Definition and Etiology

Genetic and congenital disorders are present at birth and alter nutritional status metabolically, mechanically or both. These disorders include: cleft lip or palate, Down syndrome, thalassemia major, sickle cell anemia (not sickle cell trait) and muscular dystrophy.

For more information, see Nutrition Risk Manual. 

Down syndrome occurs when an individual has a full or partial extra copy of chromosome 21. According to the National Down Syndrome Society, it is estimated that 1 in 691 babies is born with Down syndrome. (1) It is characterized by developmental delay, hypotonia (low muscle tone), short stature, and certain features of the face and hands. Other complications can be present, including heart defects, GI malformations, hearing loss, obstructive sleep apnea and more. (2)

Sickle cell anemia is an inherited blood disease where the red blood cells are a crescent shape instead of a doughnut shape (like normal red blood cells). Some of the symptoms of sickle cell anemia include: shortness of breath, coldness in hands and feet, and jaundice. (3)

Muscular dystrophy is a genetic disorder where abnormal genes interfere with proteins being made for healthy muscle. It is a gradual disease where people may eventually lose the ability to perform everyday tasks like walking or sitting up. (4,5)

Cleft palate is the presence of an opening in the lip, palate or combination of both in a child due to the lip or palate not forming properly in utero. Usually children with a cleft palate will have had surgery by the time they are 18 months old, but some will require more surgeries to help with appearance as well as breathing, hearing, and speech and language. (6)

Assessment

Down syndrome

Not all children with Down syndrome are the same or have the same challenges with nutrition. Get to know the family and the child so that you can better understand their needs.

- **Diet - Obesity** is a concern among those with Down syndrome. Energy needs are about 10-15% less than children without Down syndrome due to lower muscle tone and lower activity levels. Following a healthy and balanced diet and encouraging play activities can benefit these children.
- **Constipation - Digestive issues** can be common in children with Down syndrome. Constipation is common, so encouraging fiber-rich foods like fresh fruits and vegetables can help keep them regular. (1,2) Be sure to encourage them to discuss this issue with their health care provider in case anything more is going on with the child.

Cleft Palate

Although most feeding challenges will be resolved following surgery, some children may still have difficulties so talk with the family to get a better understanding of how the child's nutrition is affected.

Sickle cell anemia

It is common for those diagnosed with sickle cell anemia to experience times of extreme pain requiring hospitalization. Due to these hospitalizations, nutritional intake suffers. Offering families tips and ideas for continuing to consume food (formula, breastmilk, solids) during these times is important. Mentioning various ways to increase calorie consumption (nutritional shakes, supplements) during these times of extreme pain could help the family tremendously. (3, 7)

351: Inborn Errors of Metabolism


- Phenylketonuria, maple syrup urine disease or other metabolic disorders

Definition and Etiology

Inborn errors of metabolism (IEM) are disorders that infants are born with due to abnormal development in utero that affects metabolism. Phenylketonuria (PKU) is the most common disease. PKU is the absence of a liver enzyme, phenylalanine hydroxylase, which breaks down the essential amino acid phenylalanine to tyrosine. Because this breakdown does not occur, phenylalanine builds up in the blood. If left untreated, neurological damage will occur, including intellectual disability, growth delay and seizures.

Most children are diagnosed with IEM around their birth; however, some of these disorders don't show up until later in toddlerhood and preschool age. Some of the symptoms might include:

- Stagnation or loss of cognitive milestones
- Loss of expressive language skills
- Progressive deficits in attention, focus and concentration
- Other behavioral changes (1)

There are several other inborn errors of metabolism that could fall into this high-risk category. For a complete list of all the IEMs, see the Nutrition Risk Manual. 

Assessment

These children will be followed closely by a medical team and usually a metabolic RDN as well. Providing these families with nutrition support can be very helpful, since managing IEM diets can be stressful and take a lot of effort. Affirm the family for helping to ensure strict adherence to the specific diet their child is on due to the IEM. If the family has specific questions about the diet that you are unable to answer for them, refer them back to the health care provider for clarification.

352.1: Infectious Disease - Acute

352.2: Infectious Disease - Chronic

- Acute Infectious Diseases include diseases of shorter duration diagnosed within the last 6 months, such as Hepatitis A, Hep. E, Meningitis (Bacterial/Viral), Parasitic Infections, Listeriosis, Pneumonia, Bronchitis (3 episodes in past 6 months)
- Chronic Infectious Diseases include conditions that likely last a lifetime and require long-term management, such as HIV, AIDS, Hepatitis D, Hep. B, Hep. C

Definition and Etiology

Infectious diseases are caused by bacteria, viruses, fungi or parasites. Some of the common diseases that can affect children include: tuberculosis, pneumonia, meningitis, hepatitis, bronchitis and HIV/AIDS. These diseases are of concern because they are severe enough to interfere with nutritional intake.

For more information, see Nutrition Risk Manual.



Assessment

As WIC RDNs, you will most likely be seeing children after they have had an acute infection and are somewhat recovered. Some of the topics you will want to cover with these families include:

Following up with medical care - Encourage parents to continue seeing their health care provider for proper follow-up. Some diseases require medications even after symptoms have gone. It is important for these children to take the full dose of medications and not stop early. Always refer back to the health care provider and encourage communication between them and the family.

Fluids - Encourage adequate amounts of fluids to ensure proper health and recovery.

353: Food Allergies

- Immune response to a food allergen

Definition and Etiology

Food allergies occur when the body mistakenly has an immune response to a protein in a specific food and attacks the body. It is extremely important to eliminate any food that has been identified as a food allergy. Reactions to allergic foods may range from mild to life threatening, and it is impossible to know what type of reaction a child will have, so it is important to completely avoid allergic foods because it is impossible to predict when increasingly severe reactions may occur.

About 90 percent of all food allergies are triggered by the following foods:

- Dairy
- Eggs
- Peanuts
- Soy
- Wheat
- Tree nuts
- Fish
- Shellfish (1)

Several systems within the body can be affected by food allergies, including skin, cardiovascular, gastrointestinal and respiratory. Symptoms for children experiencing food allergies can include:

- Stomach cramps and vomiting
- Hives
- Wheezing
- Shortness of breath
- Swelling of tongue
- Weak pulse

- Dizziness or fainting
- Life-threatening anaphylaxis (2)

These symptoms can occur within minutes or up to two hours after coming into contact with the allergen. (2) It is estimated that 80 to 90 percent of children outgrow a food allergy to egg, milk, wheat and soy by age 5; however, those with peanut, nut or seafood allergies tend to persist throughout a lifetime. (3)

For more information, see Nutrition Risk Manual.



Assessment

Here are some of tips and topics to discuss with participants:

Food avoidance - Eliminating the food(s) that cause reactions is crucial for optimal health.

However, it is important to discuss how the parents are replacing any nutrients lost from food causing reactions. (1) For example, if the child is allergic to dairy, it will be important to talk with the family about other ways that the child can receive important nutrients that are found in milk, like calcium, potassium, vitamin D, magnesium and more.

Age and developmentally appropriate foods - Finding foods that toddlers can and will eat is a challenge by itself. Add in food allergies and feeding a child becomes even harder! Make sure your assessment covers where the child falls developmentally. This can lead you to suggesting additional foods for the family to try that could add more variety to their diets.

Eating safely outside the home - Families can obtain “chef cards” from various websites that allow the patrons to give a card to the wait staff and chefs explaining their specific food allergy. Encourage families to offer these cards while at restaurants and to ask to speak to the chefs in order to explain and make sure that the food is truly allergen free for the child. (2)

Support - Food allergies are a challenging diagnosis to be given. It affects daily living and can seem overwhelming to prevent contact with the allergen. Offer support to these families. Find local groups in your area for families with children with food allergies. It may be really

helpful for these parents to discuss their child's condition with others who are in the same place as them and to give each other ideas for foods for their child.

The Food Allergy Research and Education (FARE) group has a great website with a lot of helpful information and resources for families managing food allergies. Look it over for yourself or refer your participants to this website for additional information: <https://www.foodallergy.org/resources/kids>



Take a closer look!

This risk code has a case study in the *Workbook*.

354: Celiac Disease

- Also known as celiac sprue, gluten enteropathy, and non-tropical sprue

Definition and Etiology

Celiac disease is an immune response to eating gluten, a protein found in wheat, barley and rye. The gluten causes an immune response in the small intestine, which causes inflammation and damages the villi in the lining of the small intestine and can prevent absorption of some nutrients. There is no known cause of celiac disease but it does appear to be genetic and some populations are at higher risk for developing it. (1)

Signs and symptoms for children may occur at any age and can include:

- Irritability
- Chronic diarrhea or constipation
- Bloating and gas
- Vomiting
- Skin rashes
- Damaged tooth enamel
- Iron deficiency anemia
- Decreased appetite
- Slow growth (2)

Although there is no cure for celiac disease, the prognosis is good when following a strict gluten-free diet. Sometimes doctors may recommend oral or intravenous vitamin supplements to help with any vitamin or nutrient deficiencies, depending on the condition of the intestine. Adherence to a gluten-free diet can result in a diet low in iron, folate, niacin, B vitamins, calcium and the fat-soluble vitamins (vitamins A, D, E and K), so working with an RDN can be critical to ensuring the child has enough of these vitamins and minerals in their diet.

Usually after two to three weeks of starting a gluten-free diet, the villi begin to heal and there will be normal absorption of nutrients. Any gluten in the diet can cause intestinal discomfort and lead to absorption issues again, so maintaining a gluten-free diet is essential to good health.

If left untreated, the damage done to the intestine from celiac disease can lead to long-term health conditions such as iron deficiency anemia, early onset osteoporosis, and neurological manifestations, among others. It is critical for a healthy gluten-free diet to be maintained for life to decrease complications and other health concerns resulting from a damaged intestine due to celiac disease. (1, 2, 3)

For more information, see Nutrition Risk Manual.



Assessment

When completing an assessment, it is important to watch for signs of malnutrition in these participants. Newly diagnosed children or those that are not following a strict gluten-free diet may show signs of malnutrition such as poor growth. Helping the family to better understand the disease and how to help their child have a healthy intestine that can absorb all the nutrients the body needs to grow and develop can help increase adherence to a healthy gluten-free diet.

One way that can help a family to better understand what is going on in their child's body is to provide a picture of what the intestine is like in people with celiac disease. A normally functioning intestine is like a lush carpet with healthy villi reaching into the intestines and absorbing nutrients and vitamins for the body. However, with celiac disease, the villi are flattened, so instead of resembling a lush carpet, the intestines look more like a tile floor. These flattened villi are not able to absorb all the nutrients like the fibers in the lush carpet, so health suffers. Luckily, with adherence to a gluten-free diet, the villi can become like that lush carpet again. That is why it's important to make sure there is no gluten in the diet so that the villi and intestine can heal and start to better absorb nutrients again.

Other topics to discuss with the family:

- What is gluten and what foods are likely to have gluten in them
- What foods are recommended to include in the diet

- Reading nutrition labels - Making sure the family understands how to read nutrition labels and what to look for is crucial in making sure gluten is completely eliminated from the child's diet.
- Cross-contamination - Help the family to better understand what this means and how to prevent gluten in the diet due to cross contamination
- Other resources such as books, recipes, websites (For some ideas, see the Resources section of the Appendix?)



Critical Thinking Question:

Please go to the accompanying Workbook to answer Risk 354 question 1.

356: Hypoglycemia

- Low blood sugar


Definition and Etiology

Hypoglycemia is when there is a low amount of glucose in the blood stream. This can happen on its own (not related to another disease) or because of complications of another disease. Most commonly, hypoglycemia occurs due to diabetes. (1) Some of the symptoms of hypoglycemia include:

- Shakiness
- Dizziness
- Hunger
- Headache
- Sweating
- Irritability
- Pale skin
- Clumsy or jerky movements
- Tingling sensation

- Seizures in severe cases (1)

Treating hypoglycemia will most likely involve seeking the underlying cause of the low blood sugar. Immediate treatment is to increase blood sugar by giving food or liquid.

For more information, see Nutrition Risk Manual. 

Assessment

Completing a full medical assessment will really benefit these families as you will be able to discover if the child has other medical conditions and how the family is following up with their medical team. Some information that may help these families includes:

- **Be consistent** - Following a regular eating routine will help to decrease the chances of blood sugar dropping too low.
- **Take snacks** - Encourage the parent or caregiver to bring snacks with them when they leave the house. Also, packing emergency snacks or drinks in the car, travel bag, and stroller to have available whenever the child may need it is helpful.
- **Follow their medical plan** - If the child has diabetes, make sure that the family understands how to check blood sugars and monitor the child's levels. By being a nonjudgmental voice, they may feel like they can ask you questions or for clarification that they haven't received from their medical team.



Critical Thinking Question:

Please go to the *accompanying Workbook to answer Risk 335 question 1.*

362: Developmental, Sensory or Motor Disabilities Interfering with the Ability to Eat

- Brain injury/impaired function, autism, etc.

Definition and Etiology

There are several categories of developmental delay:

- Language or speech
- Vision
- Social and emotional skills
- Motor skills (movement)
- Cognitive skills (thinking)

These delays can be caused by a variety of reasons, some of which are:

- Genetic defect
- Birth defects
- Fetal alcohol syndrome
- Severe medical problems
- Parental neglect
- Trauma (1)

For more information, see Nutrition Risk Manual. 

Assessment

Sometimes a developmental delay can cause problems with a child's nutrition. For example, a child with Down syndrome may not be able to feed himself or a child on the autism spectrum may have issues with foods that have certain textures and, therefore, is limited in what he eats. These are useful

situations to discuss with the family and see where they need support. In these situations, it will always be beneficial to refer the family to outside resources and feeding specialists.

Resources - There are several resources for children with developmental delays. One of these is the Arizona Early Intervention Program (AzEIP), which is available from birth to age 3, and Early Childhood Special Education (ECSE), which covers preschool ages 3 to 5. Both of these programs offer support to children with developmental delays and their families. You can encourage parents to utilize these services which can evaluate and recommend services and therapies for the child. See references below for their website. (2, 3) Another great resource to inform parents of is the organization Feeding Matters. They have support groups for families struggling with feeding issues. They can gain support and helpful information from others that are going through similar situations. See their website below. (4)



Take a closer look!

This risk code has a case study in the *Workbook*.

Module 4: Dietary Codes and the Concern with High-Risk Participants

There are no high-risk dietary WIC 400 codes. However, when you see a participant that does have a high risk assigned to them, they may have a dietary code assigned to them as well. It can be very meaningful for your high-risk appointment if you take time to look into their previous certification appointment to see which codes were assigned. Often, dietary codes could be part of the cause that has made the participant high risk. For example, a 2-year-old taking milk from a bottle could be contributing to high-risk code 201.1 Low Hemoglobin. Another example might be a child drinking a large amount of sugary drinks throughout the day, leading to a risk 113 Obese 2- to 5-year old.



Critical Thinking Question:

Please go to the accompanying Workbook to answer Module 4 questions 1 and 2.

Taking the time to look back to previous notes and WIC codes can help guide your conversation. Some of the questions you want to consider when looking at previous notes include:

- Did the NES talk to the parent or caregiver about the dietary code that you are concerned with?
- Did the parent or caregiver commit to changing something related to that code? If so, this is a perfect starting point to discuss with the parent or caregiver about how the change is going and to provide further encouragement if they need.
- What were the parent's main concerns at the previous appointment?

Although you may not be specifically addressing these 400 codes, you will find that information about these codes can really help in your assessment of the client and help you choose the nutrition education to offer.

Appendix:

References:

Risk 103

1. Healthy Weights for Healthy Kids: What Should I Do if My Child Is Underweight? Virginia Cooperative Extension: Available from: <http://www.pubs.ext.vt.edu/348/348-271/348-271.html> Accessed September 30, 2015

Risk 113

1. Childhood obesity Causes and Consequences CDC: Available from: <http://www.cdc.gov/obesity/childhood/causes.html> Accessed September 30, 2015
2. Preventing Childhood Obesity. American Heart Association. Available from: http://www.heart.org/HEARTORG/GettingHealthy/HealthierKids/ChildhoodObesity/Preventing-Childhood-Obesity-Tips-for-Parents-and-Caretakers_UCM_456118_Article.jsp Accessed September 30, 2015

Risk 115

1. Sleep and your 1-2 year old. KidsHealth: Available from: <http://kidshealth.org/parent/growth/sleep/sleep12yr.html> Accessed September 30, 2015
2. Dietary Recommendations for Healthy Children. American Heart Association: Available from: http://www.heart.org/HEARTORG/GettingHealthy/Dietary-Recommendations-for-Healthy-Children_UCM_303886_Article.jsp Accessed September 30, 2015

Risk 134

1. Berkow R, Fletcher AJ. Rahway The Merck manual of diagnosis and therapy. (NJ): Merck Sharp & Dohme Research Laboratories; 1992.
2. Failure to Thrive. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_category_id=13&lv1=144623&ncm_toc_id=144623&ncm_heading=Nutrition%20Care Accessed September 30, 2015
3. Failure to Thrive. Johns Hopkins Children's Center. Available from: <http://www.hopkinschildrens.org/Failure-to-Thrive.aspx> Accessed September 30, 2015

Risk 141

1. Low Birthweight. March of Dimes. Available from: <http://www.marchofdimes.org/baby/low-birthweight.aspx> Accessed September 30, 2015

Risk 142.1

1. March of Dimes; The Partnership for Maternal, Newborn & Child Health; Save the Children. World Health Organization; Born too soon: the global action report on preterm birth, 2012. Available from: http://apps.who.int/iris/bitstream/10665/44864/1/9789241503433_eng.pdf Accessed September 30, 2015.
2. Premature Birth. CDC. Available from: <http://www.cdc.gov/Features/PrematureBirth/> Accessed September 30, 2015

Risk 201.1

1. Anemia. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=145195 Accessed September 30, 2015
2. Iron Deficiency Anemia. Mayo Clinic. Available from: <http://www.mayoclinic.org/diseases-conditions/iron-deficiency-anemia/basics/symptoms/con-20019327> Accessed September 30, 2015

Risk 341

1. Protein Energy malnutrition. Encyclopedia of Children's Health. Available from: <http://www.healthofchildren.com/P/Protein-Energy-Malnutrition.html> Accessed September 30, 2015
2. Protein Energy Malnutrition. Medscape. Available from: <http://emedicine.medscape.com/article/1104623-overview> Accessed September 30, 2015
3. Scurvy. Medscape. Available from: <http://emedicine.medscape.com/article/125350-clinical> Accessed September 30, 2015
4. Rickets. Mayo Clinic. Available from: <http://www.mayoclinic.org/diseases-conditions/rickets/basics/risk-factors/con-20027091> Accessed September 30, 2015
5. Beriberi. Medline. Available from: <http://www.nlm.nih.gov/medlineplus/ency/article/000339.htm> Accessed September 30, 2015
6. What are the treatments for Menkes disease. NIH. Available from: <http://www.nichd.nih.gov/health/topics/menkes/conditioninfo/Pages/treatments.aspx> Accessed September 30, 2015

Risk 342

1. GERD. Mayo Clinic. Available from: <http://www.mayoclinic.org/diseases-conditions/gerd/basics/symptoms/con-20025201> Accessed September 30, 2015
2. Short Bowel Syndrome (SBS) in Children. Boston's Children's Hospital. Available from: <http://www.childrenshospital.org/conditions-and-treatments/conditions/short-bowel-syndrome-sbs> Accessed September 30, 2015
3. What are Crohn's and Colitis? Crohn's and Colitis Foundation of America. Available from: <http://www.ccfa.org/what-are-crohns-and-colitis/> Accessed September 30, 2015

4. Gastroesophageal Reflux. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144766
5. Abad-Siden A, Sutphen J. Nutritional management of pediatric short bowel syndrome. Available from: Pract Gastroenterol. 2003; 27:28-48.
6. Jeejeebhoy KN. Short bowel syndrome: a nutritional and medical approach. CMAJ. 2002; 166:1297-1302.
7. Inflammatory Bowel Disease. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144770 Accessed September 30, 2015

Risk 343

1. American Diabetes Association. Diagnosis and classification of diabetes mellitus. Diabetes Care. Jan 2008; 31 Suppl 1:S55-60.
2. Diabetes Mellitus. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144763 Accessed September 30, 2015
3. Type 1 Diabetes. American Diabetes Association. Available from: <http://www.diabetes.org/diabetes-basics/type-1/?loc=db-slabnav> Accessed September 30, 2015
4. Type 2 Diabetes in Children. Healthline. Available from: <http://www.healthline.com/health/type-2-diabetes-children#Overview1> Accessed September 30, 2015

Risk 345

1. What Causes High Blood Pressure? National Heart, Lung and Blood Institute. Available from: <http://www.nhlbi.nih.gov/health/health-topics/topics/hbp/causes> Accessed September 30, 2015
2. Pediatric Hypertension. MedScape. Available from: <http://emedicine.medscape.com/article/889877-treatment#d9> Accessed September 30, 2015
3. Hypertension. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=8480 Accessed September 30, 2015

Risk 346

1. Chronic Kidney Disease. Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144779 Accessed September 30, 2015
2. Overview of Kidney Disease in Children. National Institute of Diabetes and Digestive and Kidney Diseases. <http://www.niddk.nih.gov/health-information/health-topics/kidney-disease/overview-of-kidney-disease-in-children/Pages/index.aspx> Accessed September 30, 2015
3. Childhood Nephrotic Syndrome. National Institute of Diabetes and Digestive and Kidney Diseases. Available from: <http://www.niddk.nih.gov/health-information/health-topics/kidney-disease/nephrotic-syndrome-in-children/Pages/index.aspx> Accessed September 30, 2015

-
4. Nephrotic Syndrome. Nutrition Care Manual. Available from:
https://www.nutritioncaremanual.org/topic.cfm?ncm_category_id=13&lv1=144634&lv2=144780&ncm_toc_id=144780&ncm_heading=Nutrition%20Care Accessed September 30, 2015

Risk 347

1. Cancer in Children. MedLine Plus. Available from: <https://www.nlm.nih.gov/medlineplus/cancerinchildren.html> Accessed September 30, 2015
2. Nutrition for Children with Cancer. American Cancer Society: Available from:
<http://www.cancer.org/treatment/childrenandcancer/whenyourchildhascancer/nutritionforchildrenwithcancer/index> Accessed September 30, 2015

Risk 348

1. Diagnosis of Infant Seizures. Epilepsy Foundation: <http://www.epilepsy.com/learn/seizures-youth/about-newborns-and-infants/diagnosis-infant-seizures>
2. Information on the Ketogenic Diet. Epilepsy Foundation:
<http://www.epilepsy.com/information/professionals/resource-library/links/information-ketogenic-diet>
3. Cerebral Palsy. Mayo Clinic: <http://www.mayoclinic.org/diseases-conditions/cerebral-palsy/basics/definition/con-20030502>
4. What is Spina Bifida? Spina Bifida Association:
http://www.spinabifidaassociation.org/site/c.evKRI7OXIoJ8H/b.8277225/k.5A79/What_is_Spina_Bifida.htm
5. What is Parkinson's Disease. National Parkinson's Foundation: <http://www.parkinson.org/Parkinson-s-Disease/PD-101/What-is-Parkinson-s-disease>
6. What is MS? National MS Society: <http://www.nationalmssociety.org/What-is-MS/Who-Gets-MS/Pediatric-MS>
7. Cerebral Palsy/Nutrition Intervention. Pediatric Nutrition Care Manual:
https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144742
8. Cerebral Palsy/Nutrition Intervention. Pediatric Nutrition Care Manual: Cerebral Palsy/Nutrition Intervention.
https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144744

Risk 349

1. What is Down's Syndrome? National Down's Syndrome Society: Available from:
<http://www.ndss.org/Down-Syndrome/What-Is-Down-Syndrome/> Accessed September 30, 2015
2. Down's Syndrome. Pediatric Nutrition Care Manual:
https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144743
3. What are the Signs and Symptoms of Sickle Cell Anemia? National Heart, Lung and Blood Institute:
<http://www.nhlbi.nih.gov/health/health-topics/topics/sca/signs>

4. Muscular Dystrophy. Kid's Health:
http://kidshealth.org/teen/diseases_conditions/bones/muscular_dystrophy.html
5. Muscular Dystrophy. Mayo Clinic: <http://www.mayoclinic.org/diseases-conditions/muscular-dystrophy/basics/symptoms/con-20021240>
6. Facts about Cleft Lip and Cleft Palate. CDC: Available from:
<http://www.cdc.gov/ncbddd/birthdefects/CleftLip.html> Accessed September 30, 2015
7. Down's Syndrome. The National Association for Child Development: Available from:
http://downsyndrome.nacd.org/gastro_issues.php Accessed September 30, 2015
8. Facts about Cleft Lip and Cleft Palate. Center for Disease Control and Prevention:
<http://www.cdc.gov/ncbddd/birthdefects/cleftlip.html>
9. Cleft Lip and Palate. Pediatric Nutrition Care Manual:
https://www.nutritioncaremanual.org/topic.cfm?ncm_category_id=13&lvl=144619&ncm_toc_id=144619&ncm_heading=Nutrition%20Care
10. Complications and Treatments of Sickle Cell Anemia. Center for Disease Control and Prevention:.
<http://www.cdc.gov/ncbddd/sicklecell/treatments.html>

Risk 351

1. Inborn Errors of Metabolism in Infancy and Early Childhood: An Update. Association of American Family Physicians: Available from: <http://www.aafp.org/afp/2006/0601/p1981.html> Accessed September 30, 2015

Risk 353

1. Food Allergy Disorders. Nutrition Care Manual. Available from:
https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=255482 Accessed September 30, 2015
2. Food Allergies. American College of Allergy, Asthma, and Immunology. Available from:
<http://acaai.org/allergies/types/food-allergies> Accessed September 30, 2015
3. Food Allergies in Children. Healthy Children. Available from:
<https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Food-Allergies-in-Children.aspx>
Accessed September 30, 2015

Risk 354

1. Celiac Disease Symptoms and Causes. Boston Children's Hospital. Available from:
<http://www.childrenshospital.org/conditions-and-treatments/conditions/c/celiac-disease/symptoms-and-causes>
Accessed September 30, 2015

-
2. Celiac Disease in Children. National Foundation for Celiac Awareness. Available from: <http://www.celiaccentral.org/Celiac-Disease/Celiac-Symptoms/Celiac-in-Children/281/> Accessed September 30, 2015
 3. Celiac Disease. Pediatric Nutrition Care Manual. Available from: https://www.nutritioncaremanual.org/topic.cfm?ncm_toc_id=144772 Accessed September 30, 2015

Risk 356

1. Hypoglycemia in Children. Stanford Children's Health. Available from: <http://www.stanfordchildrens.org/en/topic/default?id=hypoglycemia-in-children-90-P01960> Accessed September 30, 2015

Risk 362

1. Recognizing Developmental Delays in Children. WebMD. Available from: <http://www.webmd.com/parenting/baby/recognizing-developmental-delays-birth-age-2?page=2> Accessed September 30, 2015
2. AZ Early Intervention Program. Available from: <https://www.azdes.gov/azeip/> Accessed September 30, 2015
11. Early Childhood Special Education. Available from: <http://www.azed.gov/early-childhood/preschool/preschool-programs/ecse/> Accessed September 30, 2015
12. Feeding Matters. Available from: <https://www.feedingmatters.org/> Accessed September 30, 2015

Competency Achievement Checklist: High-Risk Guidebook for Children

RDN/MRN name: _____

Trainer name: _____

*Trainer: Evaluate the RDN or MRN's competency of the basic nutrition information upon completion of this High-Risk Guidebook, all learning activities, case studies and all discussions.

Registered Dietitian Nutritionist or Medium-Risk Nutritionist can:	Dates Achieved:
Identify high-risk codes for children	
Assign high-risk codes for children according to Nutrition Risk Manual definitions	
Assess the relationship of subjective and objective information in high-risk case studies to determine appropriate nutrition education options to offer clients	
Explore ways to facilitate behavior change consistent with NSS, AZ WIC policy and Participant Centered Services approach	